AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1.   (Currently Amended) A telecommunication network, comprising

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of intersubnetwork connections for connection of the first subnetwork to a second subnetwork, each intersubnetwork connection with a first subnetwork side and second subnetwork side;

a plurality of inverse multiplexers, each with an input which is connected with a respective node, which inverse multiplexers are arranged for receiving an original data signal transmitted from the <u>respective</u> node to the second subnetwork and inverse multiplexing the original data signal to a plurality of inverse multiplex data ~~signal~~<u>signals</u> for transmitting the original data signal via the plurality of intersubnetwork connections in an inverse-multiplexed manner;

a plurality of system multiplexers, each connected with outputs of a plurality of the inverse multiplexers and at least one of the intersubnetwork connections, wherein each system multiplexer is connected with a different intersubnetwork connection, and the system multiplexers are arranged for transmitting the inverse multiplex data signals to the second subnetwork, wherein the inverse multiplex data signals are each transmitted over a different intersubnetwork connection; wherein each of the system multiplexers is arranged to receive and transmit inverse multiplex data signals from each of the inverse multiplexers.

2.   (Currently Amended) A telecommunication network, comprising

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of intersubnetwork connections for connection of the first subnetwork with a

second subnetwork, each intersubnetwork connection with a first subnetwork side and second

subnetwork side;

a plurality of inverse demultiplexers, each with an input which is connected with a

respective node, which inverse demultiplexers are arranged for receiving a plurality of inverse

multiplex data signals, recovering an original signal transmitted from the second subnetwork

from the inverse multiplex data signals and presenting the recovered original signal to the

respective node of the receiving inverse demultiplexer;

a plurality of system demultiplexers, each connected with inputs of a plurality of the

inverse demultiplexers and at least one of the intersubnetwork connections, wherein each

system demultiplexer is connected with a different intersubnetwork connection, and the

system demultiplexers are arranged for receiving the inverse multiplex data signals from the

second subnetwork, wherein the inverse multiplex data signals are each received over a

different intersubnetwork connection; wherein each of the system demultiplexers has

connections to transmit inverse multiplex data signals to each of the inverse demultiplexers.

3.   (Currently Amended) A telecommunication network according to claim 1 or 2, wherein

the intersubnetwork connections comprise different local loop telephone connections.

4.   (Original) A telecommunication network according to claim 3, wherein at least two

nodes on the first subnetwork side are located in different buildings.

5.   (Currently Amended) A telecommunication network according to ~~any one of the preceding claims~~claim 1, ~~with~~further comprising routing units which each comprise a combination of one of the inverse multiplexers and one of the system multiplexers ~~and/or a combination of one of the inverse demultiplexers and one of the system demultiplexers~~, wherein each routing unit, for interchanging the inverse multiplex data signals with the nodes, is, without intervention of one of the other routing units, connected with a respective node, and via at least one of the routing units with ~~the~~ other nodes than the respective node.

6.   (Original) A telecommunication network according to claim 5, wherein at least one of the routing units is connected via a regular connection with its respective node, and is connected via a wireless transmission connection for communication with at least one of the other routing units for interchanging the inverse multiplex data signals with the other nodes than the respective node.

7.   (Currently Amended) A telecommunication network according to ~~one or more of the preceding claims~~claim 1, wherein at least one of the at least two intersubnetwork connections is a broadband connection, such as an ADSL connection.

8.   (Original) A telecommunication network according to claim 7, wherein at least one of the broadband connections has a data throughput speed between 0.5 and 2.0 Mbps in the direction from the second subnetwork to the first subnetwork.

9.   (Currently Amended) A telecommunication network according to ~~one or more of the preceding claims~~claim 1, wherein the number of intersubnetwork connections is smaller than the number of nodes connectable with the connecting system in the first subnetwork.

10.   (Currently Amended) A telecommunication network according to ~~one or more of the preceding claims~~claim 1, wherein the number of intersubnetwork connections is equal to the number of end nodes in the first subnetwork connectable with the second subnetwork via the intersubnetwork connections.

11.   (Currently Amended) A telecommunication network according to ~~any one of the preceding claims~~claim 1, wherein at least one of the inverse multiplexers is arranged for distributing the inverse multiplex data signals over the intersubnetwork connections connected with the inverse multiplexer according to a predetermined distribution criterion.

12.   (Original) A telecommunication network according to claim 11, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the intersubnetwork connections in proportion with the bandwidth of the respective intersubnetwork connection.

13.   (Currently Amended) A telecommunication network according to claim 11 ~~or 12~~, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the intersubnetwork connections in proportion with the number of intersubnetwork connections.

14.   (Currently Amended) A telecommunication network according to ~~any one of the preceding claims~~claim 1, wherein the second subnetwork comprises a shared inverse demultiplexer and/or inverse multiplexer for inverse demultiplexing and/or multiplexing original data from and/or for the combined nodes.

15.   (Currently Amended) A telecommunication network according to ~~any one of claims 1-13~~claim 1, wherein the second subnetwork ~~comprise~~comprises a plurality of inverse demultiplexers and/or inverse multiplexers, each for inverse multiplexing and/or multiplexing of original data from and/or for a respective node from the first subnetwork.

16.   (Currently Amended) A connecting device for supporting the interchange of data signals between nodes and a subnetwork, which connecting device is provided with

       a terminal for a connection with a first node;

       a terminal for an intersubnetwork connection to the subnetwork;

       an inverse multiplexer and/or inverse demultiplexer, for inverse multiplexing and/or demultiplexing a local original message during communication with the subnetwork, wherein the inverse multiplexer and/or inverse demultiplexer converts the local message ~~in~~into a plurality of multiplex data signals and/or recovers the local message from a plurality of multiplex data signals, respectively;

       a multiplexer element, coupled between the inverse multiplexer and the terminal for the intersubnetwork ~~connections~~connection, and further provided with a connection for communication with a multiplexer element of at least one other connecting device, wherein the multiplexer element is arranged to

       (a) communicate a first of the multiplex data signals for the local original message with the subnetwork via the intersubnetwork connection; and

       (b) communicate a second of the multiplex data signals for the local original message with the subnetwork via the multiplexer element at the at least one other connecting device; and

       (c) routing multiplex data signals from a non-local original message for further nodes between the intersubnetwork connection and the multiplexer element of the at least one other connecting device.

17.   (Original) A connecting device according to claim 16, wherein the intersubnetwork connection is a local loop telephone connection.

18.   (Original) A connecting device according to claim 16, wherein the connection for communication with the multiplexer element of the at least one other connecting device is a wireless transmission connection.

19.   (Original) A connecting device according to claim 16, wherein the intersubnetwork connection is a broadband connection, such as an ADSL or cable connection.

20.   (Currently Amended) A connecting device according to ~~any one of claims 16-19~~claim 16, wherein the inverse multiplexer is arranged for distributing ~~the~~ inverse multiplex data signals over the intersubnetwork connection and to the multiplexer element of the at least one other connecting device, according to a predetermined distribution criterion.

21.   (Original) A method for transmitting data in a telecommunication network between a first subnetwork and a second subnetwork, comprising:

        inverse multiplexing of original data to inverse multiplex data signals;

        communicating the inverse multiplex data signals between the first subnetwork and second subnetwork over at least two intersubnetwork connections, wherein at least two of the inverse multiplex data signals are each transmitted over a different intersubnetwork connection; and wherein

        multiple systems of inverse multiplex data signals, each system for original data from or to a respective node, are transmitted over the same said at least two intersubnetwork connections in a distributed manner in the first subnetwork.

22.   (Original) A method according to claim 21, wherein the intersubnetwork connections are local loop telephone lines.

23.   (Currently Amended) A computer program, comprising a program codecomputer-executable instructions for carrying out the steps of: a method according to claim 22 when the program code is loaded into a programmable device

  inverse multiplexing of original data to inverse multiplex data signals;

  communicating the inverse multiplex data signals between the first subnetwork and second subnetwork over at least two intersubnetwork connections, wherein at least two of the inverse multiplex data signals are each transmitted over a different intersubnetwork connection; and wherein

  multiple systems of inverse multiplex data signals, each system for original data from or to a respective node, are transmitted over the same said at least two intersubnetwork connections in a distributed manner in the first subnetwork.

24.   (New) A telecommunication network according to claim 2, wherein the intersubnetwork connections comprise different local loop telephone connections.

25.   (New) A telecommunication network according to claim 2, further comprising routing units which each comprise a combination of one of the inverse demultiplexers and one of the system demultiplexers, wherein each routing unit, for interchanging the inverse multiplex data signals with the nodes, is, without intervention of one of the other routing units, connected with a respective node, and via at least one of the routing units with other nodes than the respective node.

26.   (New) A telecommunication network according to claim 5, wherein at least one of the routing units is connected via a regular connection with its respective node, and is connected via a wireless transmission connection for communication with at least one of the other routing units for interchanging the inverse multiplex data signals with the other nodes than the respective node.